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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/615,081	07/12/2000	Yutaka Suenaga	XA-9335	2763

7590 05/16/2002

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EXAMINER

ROBINSON, MARK A

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 05/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/615,081

Applicant(s)

SUENAGA ET AL.

Examiner

Mark A. Robinson

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-40, 42 and 44-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-28, 30, 31, 33-38, 42, 44-49 and 51-62 is/are allowed.
- 6) ☒ Claim(s) 29, 32, 39, 40 and 50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 3/6/02 and 3/11/02 have been entered.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 29,32,39 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Furter made of record.

Furter shows a catadioptric projection exposure optical system including first(5) and second(19) mirrors and a lens element(100,200) forming a catadioptric system for forming an intermediate image from an object at a first plane(O), and a refraction system (the refractive elements on the image side of

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concave mirror 19) which forms an image of light coming directly from the concave mirror onto a second plane(36) parallel to the first plane, with both of the systems being disposed between the object and image planes. Furter also teaches a circular exit pupil and use of two types of glass (note claim 7).

4. Claim 50 is rejected under 35 U.S.C. 102(b) as being anticipated by Matsumoto made of record.

Claim 50 stands rejected as discussed in the previous office action, with Matsumoto showing both the catadioptric and refractive optical systems to share an optical axis.

Allowable Subject Matter

5. Claims 18-28,30,31,33-38,42,44-49 and 51-62 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or suggest a catadioptric optical system wherein the catadioptric and refractive systems are disposed between the first and second plane surfaces and on a single linear optical axis as set forth in the combination of claim 18 or 42, or including the arrangement of elements as set forth in the combination of any of claims 30,31,36-38,44 or 46-48, or which includes elements

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satisfying the conditions set forth in the combination of any of claims 33-35, or wherein the catadioptric and refractive systems are disposed between the first and second plane surfaces and the first, second, and intermediate image planes are parallel as set forth in the combination of claim 51.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Robinson whose telephone number is (703) 305-3506.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached at (703) 308-1687. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Mark Robinson', is written over a horizontal line.

Mark Robinson

Patent Examiner

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5/13/02